

REMARKS

Entry of this amendment is proper under 37 CFR §1.116, since the only claim amendments address the Examiner's new concerns for non-statutory subject matter, thereby no new issues are raised.

Applicant gratefully acknowledges the Examiner for courtesies extended during a brief telephone interview on April 5, 2010, wherein Applicant's representative suggested that an After-final telephone interview that included the inventor might expedite prosecution, since the Examiner still remains confused with the concept of "bins" as defined in both the specification and the independent claims. The Examiner declined to grant such After-final interview, indicating that he considered the broadest reasonable interpretation of "bin" as meaning any word stored in a memory.

In response, Applicant respectfully points out that that, as explained in the discussion below, the broadest reasonable interpretation for claim construction cannot contradict the plain meaning of the claim language or be inconsistent with the definitions in the specification.

Claims 1 and 28-52 are pending in the Application.

It is noted that the claim amendments are made only for more particularly pointing out the invention, and not for distinguishing the invention over the prior art, narrowing the claims or for any statutory requirements of patentability. Further, Applicant specifically states that no amendment to any claim herein should be construed as a disclaimer of any interest in or right to an equivalent of any element or feature of the amended claim.

Claims 39-52 stands rejected under 35 U.S.C. § 101 as allegedly directed to non-statutory subject matter.

Claims 42-44 stand rejected under 35 U.S.C. § 112, second paragraph, as allegedly indefinite.

Claims 1 and 28-52 stand rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Muralidhar, et al, "A General Additive Data Perturbation Method for Database Security."

These rejections are respectfully traversed in the following discussion.

I. THE CLAIMED INVENTION

The claimed invention is directed to a computerized method of conducting a survey. For at least one question in the survey, a bin is established in a memory of a computer for each of a possible response to the question. For each bin, a perturbing mechanism is established that perturbs a content of the bin, the perturbing mechanism having a statistical parameter with a known value.

As described beginning at line 9 of page 2 of the specification, a conventional method of recovering aggregate statistics of the data from perturbed data is iterative, complicated, memory intensive, and takes many computations, thereby requiring large computation time to estimate a distribution for data mining algorithms that preserve privacy of those whose personal data are collected and analyzed.

The claimed invention, on the other hand, provides a method of data mining that has both a characteristic of small privacy loss and high fidelity in the estimate of the data mining result.

II. THE 35 USC §101 REJECTION

The Examiner alleges that claims 39-52 are directed non-statutory subject matter. Applicant disagrees.

Relative to claims 48 and 50, Applicant first points out that there is no way to achieve these two claims as a mental process, as suggested by the Examiner, since both claims clearly require generation of an indicator vector. However, the human mind is incapable of actually generating an indicator vector, as clearly required by the plain meaning of the claim language. That is, the most that can reasonably be stated about the capability of the human mind is that it can conceive of the concept of generating an indicator vector, in the abstract. That capability to conceive or understand a concept is, however, entirely different from the actual act of generating an indicator vector.

However, in an effort to expedite prosecution, these claims have been amended to more clearly recite activity executed by a processor on a computer.

Relative to the rejection for claim 39, this claim clearly recites execution by a processor, thereby precluding the Examiner's interpretation of "software *per se*". It is noted that no Examiner queried by Applicant's representative has ever been able to define "software *per se*" or provide any case citation that defines this term. As best can be understood, this expression has evolved internally at the USPTO as referring to software as defined solely in functional language. However, these claims clearly describe execution by a processor, thereby precluding interpretation that the claims address "software *per se*." If the Examiner has a clear definition of "software *per se*", a case citation, and/or preferred wording for this claim, it is respectfully requested that the Examiner make of record that information.

Relative to claim 42, to one having ordinary skill in the art, one appropriate "means" for achieving these limitations in an apparatus is clearly the processor of CPU 1211 shown in Figure 12.

Relative to claim 45, the claim clearly refers to a storage medium. Carrier waves cannot serve as a storage medium, contrary to the position adopted by a number of Examiners in the past several years.

In view of the foregoing, the Examiner is requested to reconsider and withdraw these rejections.

III. THE INDEFINITENESS REJECTION

The Examiner alleges that claims 42-44 are rendered indefinite because the Examiner considers that "... *it is unclear whether the applicant intends to invoke 112 6th paragraph*" for claim 42.

In response, Applicant submits that claim 42 has all of the prerequisites for the mean-plus-function format, thereby clearly invoking this claim format. There is nothing indefinite in a means-plus-function claim format.

In view of the foregoing, the Examiner is requested to reconsider and withdraw this rejection.

IV. THE 35 USC §103(a) REJECTION

Claims 1 and 28-52 stand rejected under 35 USC §103(a) as allegedly unpatentable over Muralidhar, et al. Applicant submits that the rejection of record fails to establish a *prima facie* obviousness rejection, since the Examiner fails to provide a reasonable rationale to modify the primary reference to arrive at the claimed invention.

As Applicant previously explained, the claimed invention is clearly different from Muralidhar, et al., in at least the following points:

1. First, as Applicant has already explained, Muralidhar does not teach or suggest constructing bins, one for each of a possible answer to the question. Figure 3A of the present application demonstrates the concept of bins. That is, in Figure 3A, there are shown five bins associated with a survey question, each bin representing one of five possible alternative responses for the survey question. For example, the bins might represent the following responses to the specific survey question: “strongly disagree” (Bin 101); “disagree” (Bin 102); “no opinion” (Bin 103); “agree” (Bin 104); and “strongly agree” (Bin 105).

In Muralidhar, the data are numbers themselves, not bins used in a survey questionnaire. In the claimed invention, a number x is converted as corresponding to one of a set of bins, where the bin correspond to the numerical answer is assigned a value of 1, and all the other bins are assigned a value of 0. The vector by taking all the values of the bins is called the indicator vector of the numerical value x. This indicator vector is perturbed, not the value x itself, as shown exemplarily in Figure 5.

Again, this concept is very different from what Muralidhar teaches, since Muralidhar does not relate to questionnaire data as grouped in bins related to each survey question. The claimed invention is clearly distinguished from Muralidhar as describing a specialized technique of perturbation applied to a specialized form of data.

On page 2 of the latest Office Action, the Examiner maintains that Muralidhar teaches “bins” because:

“Muralidhar teaches the storing of data in a database. It is known in the art that databases store data in individual records (i.e. a bin for each number). Thus Muralidhar teaches the storing of data in bins. The remainder of the argument [includes] limitations that are not in the claims.”

In response, Applicant submits that the fundamental flaw with the above-recited evaluation by the Examiner is that it improperly attempts to redefine “bin” as any number stored in a database, even though the claims themselves define “bin” as a specialized storage for a survey question, thereby specifically meaning that a “bin” refers to a potential response among potential alternate responses to that survey question. Therefore, the perturbation described in even the independent claims includes specific steps that the Examiner is required to demonstrate in the prior art.

As pointed out in MPEP § 2111 (emphasis by Applicant):

“During patent examination, the pending claims must be given their broadest reasonable interpretation consistent with the specification.” In re Hyatt, 211 F.3d 1267, 1372, 54 USPQ2d 1664, 1667 (Fed. Cir. 2000).

“Rather, the ‘PTO applies to verbiage of the proposed claims the broadest reasonable meaning of the words in their ordinary usage as they would be understood by one of ordinary skill in the art, taking into account whatever enlightenment by way of definitions or otherwise that may be afforded by the written description contained in the applicant’s specification.”

“During examination, the claims must be interpreted as broadly as their terms reasonably allow. This means that the words of the claim must be given their plain meaning unless applicant has provided a clear definition in the specification.” In re Zletz, 893 F.2d 319, 321, 13 USPQ2d 1320, 1322 (Fed. Cir 1989).

In the claim interpretation of the presently-evaluated claims, Applicant submits that both the claims and the specification provide a definition of “bin” that clearly precludes the Examiner’s interpretation recited above. The Examiner’s interpretation that the term “bin” can be broadly interpreted as meaning any individual record stored in a

database (paragraph 1 on page 2 of the Office Action) clearly and improperly ignores even the plain meaning of the claim language itself. For example, independent claim 1 clearly recites: “... for at least one question in said survey, a bin ... for each of a possible response to said question”

Simple perturbation of numbers in a generic database does not satisfy the plain meaning of the claim language, since data in Muralidhar is not directed to units of survey response questions. Nor does the Examiner even attempt to provide a rationale to modify Muralidhar to arrive at the claimed invention, thereby failing to meet the Examiner’s initial burden of a *prima facie* obviousness rejection as required by *KSR*.

Indeed, the Examiner seemingly considers that, if Muralidhar discusses a specific form and application of perturbation, then any invention that includes perturbation is thereby rendered obvious. Such implied generic conclusion of obviousness is not supported by the requirement of the *KSR* holding that the Examiner has the initial burden of articulating a reasonable rationale to modify the primary reference to arrive at the claimed invention.

None of the Examiner’s other responses overcomes this fundamental deficiency in the rejection currently of record in which the Examiner simply continues to ignore the plain meaning of the terms of art used in the claim language, including language that provides a clear definition for the term.

Hence, turning to the clear language of the claims, in Muralidhar there is no teaching or suggestion of: “... establishing, for at least one question in said survey, a bin, as represented in a memory of a computer, for each of a possible response to said question”, as required by independent claim 1. The remaining independent claims have similar language and/or concepts and, therefore, are similarly distinguished from Muralidhar.

Second, also related to the novel concept of bins, in the claimed invention, the attribute value can be non-numerical. The indicator vector, which is a vector of numbers, can still be constructed even if the answer is not numerical, but simply taken from a set. In other words, if the response is a color, the bins can be the set of all admissible colors. This, again, is different from Muralidhar, which works only with numerical values.

Third, in Muralidhar, numerical values of attributes are perturbed by adding a random value to them. In the claimed invention, an indicator vector is generated from a numerical value and this indicator is perturbed. As Applicant described in lines 12-15 of page 9 of the disclosure, this feature of the claimed invention of using a perturbed indicator vector is different from the conventional method of perturbing individual values representing attributes. This difference in fundamental concepts shows up clearly in the language of the claims and, again, the Examiner simply ignores the plain meaning of the terms used in the claim language.

Hence, turning to the language in claim 28, in Muralidhar there is no teaching or suggestion of: "... generating, using said processor, a perturbed indicator vector that represents a respondent's response for said question, said perturbed indicator vector comprising an information structure including the contents of all bins of said question after said respondent has selected one or more of said possible responses and each of the bins has been perturbed."

For the above reasons alone, the claimed invention is clearly distinguished from the conventional method described in Muralidhar.

In view of the above, Applicant respectfully requests that the Examiner reconsider and withdraw the rejection of record based on Muralidhar.


V. FORMAL MATTERS AND CONCLUSION

In view of the foregoing, Applicant submits that claims 1 and 28-52, all of the claims presently pending in the application, are patentably distinct over the prior art of record and is in condition for allowance. The Examiner is respectfully requested to pass the above application to issue at the earliest possible time.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.

Please charge any deficiencies in fees or to credit any overpayment in fees to Attorney's Deposit Account No. 50-0510.

Respectfully Submitted,



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CERTIFICATION OF TRANSMISSION

I certify that I submitted via EFS this Amendment Under 37 CFR §1.116 on April 5, 2010.



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